
AAR News

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FAA'S OFFICE OF AVIATION RESEARCH

Message from the Director

We've heard a lot about partnerships lately. For example, this past December the National Civil Aviation Review Commission recommended that the "FAA needs to be in a partnership with all elements of the aviation industry," when determining safety priorities.

In February 1997, the White House Commission on Aviation Safety and Security told us that we needed "a strong government-industry partnership . . . to develop and integrate the research, standards, regulations, procedures, and infrastructure needed to support the aviation system of the future."

Partnership has become a favorite buzz word these days -- I guess it plays well in the press. Even the Vice President's National Review task force has jumped on the bandwagon, renaming itself the National Partnership for Reinventing Government.

But, beyond the hyperbole, what do we mean by aviation partnerships, and what do they really mean to AAR?

Because the R,E&D budget is a relatively small portion (about 2 percent) of the total FAA budget, AAR's research scientists

and engineers have always found it necessary to collaborate with their federal, academic, and industry colleagues to leverage scarce R&D funds.

As a result, today the FAA's strategic network of partnerships includes over 500 colleges, universities, large and small businesses, Centers of Excellence, other government agencies, and private industry.

These alliances are established informally as well as formally through grants, cooperative agreements, memorandums of understanding, and technology transfer activities.

Such innovative programs facilitate the transfer of technology, personnel, information, intellectual property, facilities, methods, with private industry, academia, and other Government laboratories.

That exchange serves to benefit the flying public by advancing aviation

technology into the 21st century and beyond in a cost-effective manner.

AAR welcomes each and every one of these partnerships, because they fill a unique need in the FAA's R&D program. They have resulted in significant contributions to the advancement of aviation science and technology, and have provided the agency and the industry a high return on investments.

This issue of *AAR News* focuses on the FAA's strategic R&D alliances. These partnerships take many forms and represent the hard work of many individuals. But, no matter what shape or size they come in, they are all critical to our success.

I invite you to take a good look at this issue--it's one of our biggest and best. AAR is proud of the work we do in conjunction with other

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federal agencies and labs, academia, and industry. And, if you'd like additional information on any of our programs, please feel free to call or email the contact names listed.

--Jan Brecht Clark

General Aviation Revitalization at the Heart of Government Research Efforts

(Thanks to Jim Branstetter, AAR-210, for preparing this article)

The FAA/NASA/Industry AGATE (Advanced General Aviation Technology Experiments) Program is now entering its fourth year in fulfilling its goal for revitalizing the general aviation industry in the U.S.

Through a unique consortium formed by over 160 members from industry, government, and academia, AGATE is forging a path to connect the business traveler and his/her destinations with an improved means of transportation that can save time and money for many destinations over commercial airline travel.

A key goal of AGATE is to develop the guidelines, standards and certification methods necessary to bring to market a new family of aircraft that is less expensive and easier to fly than predecessor airplanes.

Four technical "Work Packages" have been formed to address technical issues key to bringing about a paradigm change in the general aviation industry. These are: (1) Flight Systems - addressing

the issues of integrated cockpit displays and controls with a focus on new flight information services soon to become available; (2) Propulsion Sensors and Controls - developing electronic engine monitoring and single-lever power control systems; (3) Integrated Manufacturing and Design - developing low cost structures and construction methods; and (4) Icing Protection - allowing new aircraft to fly in almost any weather environment.

The AGATE program will continue through FY 2001. During this time it is expected that the program will transition to encompass a wider scope of activities taking revitalization another step closer to reality.

Working with state aviation departments and private fixed-base operators, focus will be on developing the necessary ground infrastructure to accommodate the new class of aircraft at secondary airports near growing suburban business centers.

Several allied FAA and NASA programs complement the AGATE activities. The Aviation Safety Program has as one of its chief goals the dissemination of weather graphics to the cockpit.

The goals of the Advanced Air Traffic Technology Program is to assist in modernizing procedures, making it easier to fly in the National Airspace System. NASA has also embarked on a new General Aviation Propulsion Program aimed at development of more efficient powerplants for use by GA aircraft.

A Memorandum of Agreement for Revitalizing General Aviation is currently being

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coordinated between the FAA and NASA to identify interagency issues and to form a cooperative partnership to address the many tasks in the subject area. With the help of both agencies and their industry partners, the future looks promising for the U.S. to regain its former preeminence in the general aviation arena.

Foreign Affairs: The Exchange that Works

Egon Koopmann arrived from Germany last September as part of the FAA's International Exchange Visitor Program and as the successor of Frank Brenner who worked with FAA's air traffic services for one year.

He is the manager for development and implementation of digital networks in the Deutsche Flugsicherung GmbH (DFS), the German air traffic services provider. He was chosen for this program because of his strong communications background, a main area of interest to both the FAA and DFS.

Since his arrival he has worked with ASD-100 on the NAS Architecture Version 3.0 and with AND-700 on Aeronautical Data Link aspects, mainly with respect to the implementation of Controller Pilot Data Link Communication (CPDLC). He also is a member of the Flight 2000 core team, supporting the team on aspects of the ground infrastructure for Flight 2000. Later this year, he will be working solely on the Flight 2000 project.

Koopmann serves as a liaison

between the FAA and DFS, helping the FAA understand why the European view of aeronautical communications is sometimes different. His work also helps DFS to better understand FAA strategic planning for the future national airspace system (NAS).



Koopmann poses for AAR News

At many of the management meetings and technical exchanges, he stimulates productive discussions as a result of his questions, which highlight the differences between the acquisition process and project management performed in the DFS, as a privatized company, and the FAA.

This sharing of information, technologies, and resources promotes safer, more efficient global air travel -- an exchange that benefits everyone.

Beyond the exchange of ideas and information with the FAA there is a personal aspect as well. Egon had previously worked in the U.S. on different projects for Siemens AG, Telecommunications.

Both he and his wife like the lifestyle here and have no difficulty with the language.

They have two sons, the older one attends the German school in Washington, the younger one an American pre-school. The youngest son could speak no English when they arrived. But Egon said, "he adapted so easily, children do not allow language to be an obstacle."

Because of the openness and friendliness of the people they meet, both through his work and the schools that the children attend, the Koopmanns' have made many friends here. Egon feels that the greatest benefit for him is the network of FAA experts which he can call on after returning home. However, we at the FAA are sure that we are the greater beneficiaries.

FAA Signs Letter of Agreement

Dr. Jan Brecht-Clark (AAR-1), on behalf of the FAA, and representatives from the Army Directorate for Applied Technology, Test, and Simulation (DATTS), the Design Evaluation Test Technology Center, Sandia Corporation, and ORION International Technologies Inc., signed a Letter of Agreement (LOA) on February 25.

The LOA initiated a partnership to develop a long-range plan to leverage existing DOE/DoD electromagnetic environment certification research data and experimental model validation capabilities to improve FAA commercial aircraft electromagnetic

certification methods.

This partnership will allow the FAA to address the potential impact of high power electromagnetic sources required for the technological advance of ground-based, airborne, and space systems, as well as personal electronic devices, on today's aircraft.

It will also examine the use of composite materials for aircraft skin and structure, as well as the trend to use sensitive electronics and low-power, low-voltage analog and digital circuitry in flight critical applications in modern avionics systems for new and retrofitted aircraft.



Congratulations followed the signing ceremony.

The convergence of these factors when combined with hazardous electromagnetic environments (EME) may cause critical avionics systems to malfunction. The benefit of this partnership is the establishment of a knowledge base which will help the FAA improve regulation and certification guidelines and procedures that address civil aircraft EME safety issues.

Sandia and DATTS will gain

an understanding of the FAA's approach to aircraft safety in concert with aircraft operators and manufacturers.

Sparacino Recognized By FLC

Peter Sparacino (AAR-201) has received the Northeast Region Regional Coordinator's Excellence Award.

This annual award is made to the Federal Laboratory Consortium (FLC) Laboratory Representative or Alternate in recognition of that individual's significant contribution to the FLC program during the year.

The criteria for the award consist of:

--innovative developments in technology transfer that are applicable to other member laboratories;

--significant contributions for outreach to a new FLC user group; and/or

--outstanding regional leadership.

Peter was also fundamental in forming a partnership, through a Cooperative Research and Development Agreement (CRDA), between FAA and Process Technologies, Inc. (PTI). (See story on page 7, detailing this work.)

PTI received the FLC's Northeast Region Industry/Non-Federal Government/University Award. This award is presented to an American-owned company, a non-federal government entity, or university within each FLC region that has

made outstanding efforts to promote either the actual transfer of federal technology or the federal technology transfer program during the last year. The FAA won two of the four annual awards that the Region presents. As recipient of his award, Peter automatically becomes the Region's nominee for the National FLC Representative of the Year Award.

Good luck, Peter!

AAR-100 Introduces Interactive Website

Continuing Vice President Gore's commitment to reinvent government, AAR-100 has created an interactive Internet website designed to make information on human factors more accessible to the public and the research community.

"The FAA has committed to ensuring that critical human factors issues are addressed in the acquisition and integration of all new and modified aviation systems by 2005," said Dr. Maureen Pettitt, FAA's Chief Scientist and Technical Advisor for Human Factors. "This is an ambitious goal that we can only achieve if we have the input of the aviation community."

The new Human Factors Program Management System is an evolving FAA human factors knowledge database that includes a user-friendly search engine to help find current FAA human factors research projects,

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project managers, and products resulting from the research.

The public can access the site at www.hf.faa.gov/database/welcome.html.



A unique "suggestion box" provides the opportunity for FAA staff, research organizations, and the aviation community to suggest human factors research opportunities which could potentially improve the safety and efficiency of the National Aviation System (NAS).

The information collected will be entered into the Human Factors Program Management System and reviewed periodically for possible inclusion in the FAA's Human Factors research program. It will also be shared with other agencies--DOT, DoD, and NASA--to maximize the national investment strategy in civil aviation human factors.

"This initiative is geared to improving the performance and accountability of the FAA's Human Factors research program. This is essential if the agency is to maintain public support for the many vital things this program hopes to accomplish," said Pettitt. "More importantly, it gives people the opportunity to learn about the issues which matter to them, their families, and the global aviation community."

Anyone who uses the Internet can now easily find information on the entire range of the agency's human factors research, including information management and display; human-centered automation; selection and training; human performance assessment; and bioaeronautics.

Distance Learning

A ARers and ACTers recently experienced what long-distance learning is all about when they attended a live, interactive course at the Technical Center that originated from the University of North Dakota's (UND) Center for Aerospace Sciences.

T. J. O'Brien (AAR-400) and Patricia Watts (AAR-201) set up the demonstration, which explained the effects of oxygen deprivation on pilots.

Through a satellite hook-up, the FAAers engaged in a question- and-answer session with instructor and students at UND and took part in interactive tests on the course material.

The UND distance learning capability is one example of how the FAA is teaming with colleges and universities to advance aviation education.

The FAA has provided approximately \$26 million in funding to UND over the years in the form of academic grants or as part of its Airway Science program.

FAA officials hope distance learning via satellite or the Internet will encourage continuous learning among

employees. For further information on the UND demonstration, contact T.J. O'Brien at (609) 485-6086.

Technology Transfer Awards

A AR's Technology Transfer Program office (AAR-201) is honored to announce the winners of the 1998 Technology Transfer Awards. These awards recognize outstanding achievements in technology transfer at the FAA.

This awards program was initiated to recognize individuals responsible for inventions, innovations, or other outstanding scientific or technological achievements that contribute to the mission of the FAA or the Federal Government.

The awards also recognize the contributions of individuals and organizations that promote the transfer of science and technology.

And with no further ado, the envelope please . . .

In the category of **Innovative Efforts**, the award is given to the individual(s) whose innovative efforts had the most significant positive impact on transferring technology. (Award Amount: \$5,000)

and the winner is:

Lee Spanier (AAR-520) for developing environmentally-safe, non-toxic, non-detonable explosive simulants.

The other nominees included:

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The team of Jon Ferguson, Debbie Roth, Jim Lomen, Steven Powell, AAL-600;

The team of Andrew Isaksen and Roberto Delgado, AOS-520, Nick Knezevich, Jr., AVN-300, FAA Aeronautical Center, Michael D. Gooden, CB-SMO Eastern Region EA82A, Ronald Fracchia, SSC, Longmont, CO, William N. Schwarz, AMA-450, FAA Academy, Henry G. Walters, AAL-473, Bruce E. Ware, ATA-200;

The team of J. L. Fobes, Eric Neiderman, Steve Cormier, Brenda Klock, Mike Barrientos, Susan Monichetti, AAR-500;

Thomas E. Zurinskas, AOS-530;

The team of Andrew Leone, ACT-310, Edward Mancus, ACT-310, Joe Yannone, AOS-260;

Brandy A. Lohse, ASD-140. In the category of **Intellectual Property**, an award is given to the individual(s) whose activities and efforts have significantly increased the technology base of the FAA through patents, software, or other exploitable technology. (Award Amount: \$5,000) the winner is:

Gordon Jefferson (AWP-423) for "Segmented Direct Volume Display Device and Method" and its application to Air Traffic Control.

The other nominees included:

Andrew J. Richardson, AOS-610ZBW (Boston ARTCC);

Leo E. Kuneman, Jr. Baltimore Flight Standards District Office, AEA-200;

Kevin W. Fry, Fort Wayne, IN ATCT, AGL-500;

The team of Eric Neiderman, J.L. Fobes, Brenda Klock, Mike Barrientos, AAR-500;

Samuel E. Corlett, AOS-610ZFW (Fort Worth).

In the category of **Technology Transfer Assistance**, an award is given to the individual(s) whose direct assistance had the most positive effect on technology transfer, such as the development of patents, CRDA's licensing agreements, etc. (Award Amount \$3,000)

and the winner is:

Ronald Krauss (AAR-520) for development and implementation of a strategy to develop nuclear quadrupole resonance spectroscopy for explosives detection.

The other nominees included:

The team of Rodney N. Joel and Mike A. Rottinghaus, ACE-621;

Paul Biron, AOS-251;

Lawrence M. Hampton, Jr., AAR-410;
The team of Donald P. Pate, David N. Lankford, Gerry R. McCartor, Archie E. Dillard, AFS-420, OK.

The category of **Cooperative Research and Development Agreements** recognizes the individual(s) whose contribution in arranging CRDA's created a positive environment for technology transfer. (Award Amount \$5,000)

The winners are:

Anthony "Buzz" Cerino (AAR-510) for using the CRDA vehicle to accomplish the efficient execution of the

FAA's positive passenger baggage matching requirement known as Radio Frequency Identification tag technology. The effort involved engaging 5 private companies through CRDAs to accomplish the task, saving the government millions of dollars in development costs.

Joseph Wright (AAR-410) for using the CRDA vehicle to further the means of fighting post-crash fires at airports using elevated booms and cabin skin penetration systems.

The other nominees included:

The team of Dr. Shiu Ming Cheung and Mr. Lok Yan Koo, AAR-510

The **Committee Award** is given to the individual(s) whose activities in the area of technology transfer are worthy of recognition, as determined by the Awards Committee. All nominees not selected in their specific category are eligible for consideration by the Committee for this category. (Award Amount \$1,000)

And the winners are:

Edwin Ranson (SCT) for research, evaluation, and testing of digital signal processors to provide hearing protection for air traffic controllers from high levels of signals or feedback noise without interruption to ATC.

Nico Nguyen (AWP-475) for the conceptual design, enhanced development, and procurement of an advanced system for the automated location ID of serious interference sources to NAS facilities.

Robert Marks (ACT-073) for

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developing a multi-platform video systems for use in enhancing scientific engineering video imagery for aviation research purposes, as well as aiding law enforcement agencies in successfully apprehending, prosecuting, and convicting dangerous criminals.

Chuck Lund and Brian Staurseth (AAL-200), Christine Sharp (AIA-300), and Dick Shewfelt (FASC-GL) for developing a successful program to transfer information on general aviation technologies and regulation to Russian officials, which creates opportunities for U.S. industry as Russia expands its general aviation sector. Henry Walters (AAL-473) for developing a new method for predicting sun-transit outages that affect communication satellites and cause loss of service.

Andrew Isaksen and Robert Delgado (AOS-520) for developing an AFTN/MET terminal system that provides aeronautical and meteorological data to the Federated States of Micronesia and the Republic of Majuro.

Nick Knezevich, Jr., for designing, evaluating, and testing a new method for the ramp calibration of flight inspection market beacon systems installed in the FAA's fleet of inspection aircraft.

J. L. Fobes (AAR-510) for developing the computer-assisted passenger screening system.

William Curby (AAR-500) for developing several detection and discovery systems to fulfill the FAA mission to thwart terrorist acts against

air travel.

Charles Masters, Edward Pugacz, and Christopher Dumont (AAR-421) for developing and deploying an advanced method of detecting ice on critical aircraft surfaces.

Eric Neiderman, J. L. Fobes, Brenda Klock, and Mike Barrientos (AAR-510) for developing Threat Image Projection to maintain screener vigilance, provide on-line training, and monitor detection performance by superimposing fictional threats onto X-ray images. Donald Pate, David Lankford, Gerry McCartor, and Archie Dillard (AFS-420) for establishing a high-tech partnership between FAA and Boeing to develop a multifaceted computer tool for aviation-related simulations and evaluations.

Other nominees specifically submitted for this category included:

John Balk, Chicago ARTCC, AOS-610.1.ZAU;
Steve Annis, AMA-460;

Christopher Barks, AIA-1.

The awards ceremony will be held on Tuesday, April 7, at 9:30 a.m. in the FAA William J. Hughes Technical Center Auditorium. All are invited.

Congratulations to everyone, winners and nominees alike.

Partnership Report Released

The Office of Research and Technology Applications, AAR-201, has released its FY 1997 report on *Partnerships in Research and*

Development, which describes how the FAA's research program supports key national technology initiatives, makes the best use of the agency's decreasing research and development budget, and stimulates new ideas and technologies.

Highlights of the FAA's recent partnership accomplishments include:

FAA Air Transportation Centers of Excellence (COE).

The FAA chose a team of universities to serve as the new Center of Excellence for Airworthiness Assurance. The team includes Iowa State University, The Ohio State University, Sandia National Laboratories, Arizona State University, Wichita State University, University of Maryland, University of Dayton, Northwestern University, and the University of California, Los Angeles.

This center will focus its research and development efforts on aircraft safety issues such as maintenance, inspection and repair, crashworthiness, propulsion and fuel system safety technologies, landing gear systems performance and technology, and advanced materials.

Technology Transfer. One way the FAA facilitates the transfer of technology is through cooperative research and development agreements (CRDAs), which allow the FAA to share facilities, equipment, services, and personnel resources in cooperation with private industry, academia, or state or local government agencies.

The FAA initiated its first CRDA in 1990, and currently has 41 active projects.

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Accomplishments under this program include:

Airport Pavement Testing. A joint effort of the FAA and the Boeing Company began construction of the National Airport Pavement Test facility at the William J. Hughes Technical Center at Atlantic City Airport, New Jersey.

The facility, the only one of its kind in the world, will be in service in 1998. Scientists and engineers from the U.S. and other countries will use this unique facility to explore and validate new airport pavement designs, construction methods, and paving materials.

Aircraft Deicing Technology. In January 1995, the FAA formed a partnership with Process Technologies, Inc., to evaluate the performance of infrared aircraft deicing technology.

Because of the successful test results under this partnership, the FAA approved the system for use with business and general aviation aircraft. As a result, PTI, in a joint venture with Prior Aviation Services, has built the world's first infrared energy aircraft deicing system at the Greater Buffalo International Airport. Operating similar to a car wash, a plane that has ice and/or snow adhering to it enters one end of a hangar-type structure, is pushed or pulled through the building where it is deiced by infrared heat, and then leaves the building "clean" or free of contamination. Anti-icing fluids are then applied as dictated by the existing weather conditions.

This system has considerably less harmful effects on the environment than conventional chemical deicing, which can take

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hundreds of gallons of glycol to deice an aircraft depending on the type of aircraft and the weather conditions.

Aviation Research Grants.

Since the FAA awarded its first research grant in 1992, the agency has awarded 279 grant and cooperative agreements.

Some of the FAA's current grants include:

--an award to Thermedics Detection, Inc., and Barringer Instruments, Inc., for development of trace-based explosives detection systems for checked passenger baggage;

-- a cooperative agreement to EEA Aviation Foundation, Inc., to perform research in increasing safety in all segments of aviation as well as providing cost-effective and technically competent solutions to the challenges facing the FAA and general aviation in the implementation of satellite-based communications, navigation, surveillance, and air traffic control and management systems;

--a cooperative agreement with the Air Transport Association (ATA) to conduct research to develop a global positioning system-based Local Area Augmentation System architecture capable of supporting Category I/II/III precision approaches, and surface navigation.

Dual-Use Applications. Since the inception of the Technology Reinvestment Project, and its successor, the Dual-Use Applications Program, the FAA has leveraged \$344 billion in innovative projects with over 140 companies and research institutions. Current research

under this program includes:

--a GPS-based terrain avoidance and navigation system;

--multiple-use, low-cost infrared sensors for airport firefighting and rescue purposes; and

--a multimode, reprogrammable radio, that provides communications, navigation, and traffic avoidance for aircraft.

For additional information on the FAA's cooperative partnership program or to request a copy of *Partnerships*, please contact the FAA's Office of Research and Technology Applications (609) 485-5777.

R,E&D Advisory Committee

“The R,E&D Advisory Committee is one of the most beneficial partnerships we have,” says Dr. Jan Brecht-Clark (AAR-1). It was established to advise the FAA Administrator on research and development issues and to coordinate the agency's research, engineering, and development activities with industry and other government agencies. The Committee considers aviation research needs in the areas of air traffic services, airport, aircraft, safety, security, human factors, and environment and energy.

The Committee, established in 1989, has 30 members representing corporations, universities, associations, consumers and government agencies. Each member serves a two-year term. Dr. Brecht-Clark serves as the Executive Director.

“The R,E&D Advisory

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Committee works because of a common value, keeping the flying public safe, while preparing the way for the 21st century,” said Dr. Brecht-Clark.

The committee meets 3 times per year and the public is invited to attend those meetings. This means you have an opportunity see the partnership at work and participate in the process.

MEETING ANNOUNCEMENT AND TENTATIVE AGENDA

The next meeting of the Research, Engineering & Development (R,E&D) Advisory Committee will be at the Washington Dulles Airport Hilton, 13869 Park Center Road, Herndon, VA 20171 April 23-24, 1998

The meeting agenda includes a review of the FAA's planned fiscal year 2000 research and development investments in the areas of air traffic services, airports, aircraft safety, security, human factors and environment and energy.

Attendance is open to the interested public but limited to space available. If you are interested in attending the meeting and reserving a meeting package, please contact Gloria Dunderman at least 10 days prior to the meeting, at FAA AAR-200, 800 Independence Avenue, SW, Washington, DC 20591, telephone (202) 267-8937 or gloria.dunderman@faa.dot.gov.

TENTATIVE AGENDA

Thursday, April 23 - Ballroom

8:00 am Welcome and Introductory Remarks by Ralph Eschenbach, Chair, Jan Brecht-Clark, FAA, and George Donohue, FAA

8:15 am Dialogue with

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Administrator Jane Garvey on Support for Air Traffic Modernization

9:00 am Status of NAS Modernization, Steve Bradford, FAA

9:30 am Status and Current Plan for Flight 2000, Dave Tuttle, FAA

10:00 am Meeting Process and Objectives, Clyde Miller, FAA

10:15 am FY 2000 R,E&D Investment Portfolio, Clyde Miller, FAA

10:45 am BREAK

Target Area Team (TAT) Reports

11:00-11:40 am Air Traffic Services TAT, John Staples and Joann Kansier, FAA

11:40-12:10 Airports TAT, Jim White, FAA

12:10 pm LUNCH

1:10-1:50 pm Aircraft Safety TAT, George Marania, FAA

1:50-2:20 pm Security TAT, Paul Polski and Dave Smith, FAA

2:20-2:50 pm Human Factors TAT, Maureen Pettitt, FAA

2:50-3:20 pm Environment & Energy TAT, Tom Connor, FAA

3:20-3:30 pm R,E&D Management, Randy Stevens, FAA

3:30 pm BREAK

3:45 pm Breakout Sessions - Subcommittee Committee Members Meetings

- Air Traffic Services - Ballroom

- Airports - Boardroom 1
- Aircraft Safety - Hilton East Room
- Security - Fairfax Room
- Human Factors - Hilton West Room
- Environment & Energy - Boardroom 2

5:00 pm Adjourn
Friday, April 24 - Ballroom

8:00 am Plenary Session Reconvenes, Ralph Eschenbach, Chair, Jan Brecht-Clark and George Donohue,

8:05 am Subcommittee Reports (Plenary Subcommittee Chairs Session) (10 minutes per Subcommittee)

9:00 am Guidance to Breakout Groups, Clyde Miller

9:15 am Breakout Sessions - Investment Portfolio Committee Members

- Group I - Hilton West Room
- Group II - Hilton East Room
- Group III - Fairfax Room

12:30 pm LUNCH

1:30 pm Breakout Group Reports Group Leaders (Plenary Session)

3:00 pm BREAK

3:30 pm Committee Recommendations

5:00 pm Adjourn

FAA/NASA Partnership

Both the FAA and NASA realize that by working together on joint research programs they not only benefit from the use of each other's unique resources,

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but also reduce duplication of similar efforts and conserve scarce funds and other resources.

The two agencies maintain a variety of partnership vehicles to create synergistic and cost-effective research, engineering, and development programs in areas of mutual interest.

FAA-NASA Coordinating Committee

FAA/NASA cooperation is not new. Informal cooperation had been going on since the 70's. To formalize the increasing research activity between the two agencies, the FAA-NASA Coordinating Committee was created in 1980, as a means of discussing and coordinating research, development, investigative, and test activities of mutual interest.

The Committee provides for a continuing executive level exchange of information between NASA and FAA concerning each agency's ongoing programs as well as future requirements. This exchange of information allows NASA to be kept fully apprised of the needs of FAA for aeronautical technical support in areas where NASA's special expertise and facilities can be applied and allows the FAA to be kept fully apprised of relevant NASA research accomplishments.



Under the auspices of, and to support the Coordinating Committee, two FAA R&D

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Field Offices, which were initially located at NASA Ames and Langley Research Centers in the early 1970s, maintain daily contact with NASA personnel where they coordinate, facilitate, and support joint research programs of mutual interests. The Committee tracks and manages FAA/NASA cooperative activities via a process outlining broad areas of research defined by memoranda of understanding between the agencies.

MOUs and MOAs

FAA and NASA coordinate joint research activities through memorandums of understanding (MOUs) that set forth general areas for cooperative endeavor. Cooperative activities are accomplished via memorandums of agreement (MOAs) that incorporate statements of work setting forth specific research thrusts. Individual research programs are negotiated and undertaken in a manner tailored to meet program-specific objectives, foster cooperative interaction, and share resources and unique facilities. Currently the two agencies have 7 MOUs and one pending, encompassing the following research areas:

- Cockpit/ATC Integration
- Human Factors
- Airworthiness Research
- Severe Weather Research
- Program Support
- Environmental Compatibility Research
- Airspace System User Operational Flexibility and Productivity
- Aviation Safety Research (pending).

Twenty MOAs focus these joint activities on:

- Research on Airport

- Surface Operations in Reduced Visibility Weather Conditions
- Aging Aircraft Research
- General Aviation Propulsion (GAP) Program
- Aircraft Ground Operational Performance
- Development of a Certification Basis for High-Speed Civil Transport Aircraft
- Advanced Subsonic Technology & Airspace System Investment Analyses
- Airport Surface Traffic Automation (ASTA) Surface Movement Advisor
- Nowcasting Volcanic Hazards and Upper Winds Systems
- Engine Emissions Reduction Technology Program
- Wake Vortex Research Program
- Air Traffic Control Automation & Human Factors Research
- Air/Ground Compatibility, Data-Link Operation, and Human Performance
- Automated Performance Measuring System
- Operation & Maintenance of a DFW TRACON & Fort Worth ARTCC to NASA Ames
- Fatigue Countermeasures Program
- Current Technology Glass Cockpit Simulator
- Joint University Research in Air Transportation
- Center-TRACON Automation System (CTAS)
- Operation & Maintenance of a Denver ARTCC to NASA Ames Interface
- Support of FAA R&D Field Offices at NASA Centers

The FAA R&D field offices located at the two NASA centers support the joint FAA/NASA programs and provide coordination on

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aviation related NASA work. The FAA field offices represent a unique resource for the FAA because of their proximity and access to NASA facilities, their knowledge of NASA personnel and ongoing NASA research, and their understanding of FAA needs. (For additional information on FAA's NASA field offices please check out their webpage at: <http://faa-www.larc.nasa.gov>.)

FAA/NASA Partnership in Aviation Safety

This partnership, which includes DoD, is focused on investing in research leading to new safety impacting technologies, and the transition of those technologies into aviation operations. The Aviation Safety Partnership supports coordination and integration of activities with other government agencies, industry, and the operators, based on shared goals and complementary strategic guidance.

Technology conferences will be held once or twice a year, to disseminate our progress and future plans. The Partnership will manage the leveraging of resources to address the National Aviation Safety Objectives consistent with the individual agency missions.

NASA has committed to reprogramming approximately \$500 million of existing funds into the safety research program area over the next five years, matching the FAA's ongoing investment in safety research. This program has been divided into 23 investment areas, with each area having an identified NASA and FAA point of contact.

The agency is fully supportive

of building a strong FAA/NASA partnership into a fully integrated aviation safety program, allowing us to leverage out investments to address critical safety issues.

To demonstrate this commitment, the FAA has located at NASA Langley Research Center, a representative of AAR, Dr. Mike Basehore, to serve as the FAA Deputy to the NASA Manager of the Aviation Safety Program. (See *AAR News*, December 1996.)

Personnel Exchanges

In addition, to the FAA's Mike Basehore being detailed to NASA's Aviation Safety Program, NASA has recently detailed three employees to the FAA.

Dr. Kathy Abbott, of NASA Langley's Crew/Vehicle Integration Branch, has joined the Aircraft Certification Service in the position of FAA National Resource Specialist for Cockpit Human Factors. Dr. Abbott, as a NASA employee, will serve in this position for a period of five years. Dr. Abbott is a world-class recognized expert in the area of Cockpit Systems and Human Factors. She has been involved in research in this area for many years. As one example of previous activities, Dr. Abbott was a member of the NASA team that supported Boeing Aircraft Company in the development of the cockpit crew systems for the B-777. George Greene, of NASA Langley's Crew Systems and Operations Branch, has joined the FAA's R&D Field Office (AAR-210) at NASA Langley for a six month detail. Greene, using his knowledge of NASA research programs and other national and international research

activities, is working with NASA and FAA personnel to develop and transfer NASA wake vortex technology to the FAA. He serves as a focal point for FAA wake vortex related research activities, in particular, as they relate to cooperative and joint research programs with NASA.

Terry Abbott, also of NASA Langley's Crew Systems and Operations Branch, is now on assignment to the FAA Transport Airplane Directorate in Renton, Washington. Mr. Abbott has unique expert knowledge in the areas of user interface design, including flightcrew information and display symbology requirements, and general knowledge of human performance considerations for flight deck design and flightcrew operations. During his 6 months with the FAA, he will be supporting the development of FAA's interim transport category autopilot certification guidelines; the development of flight deck human factors certification policy; and preliminary work on new transport category rulemaking activities for human performance issues.

FAA/NASA Joint University Program (JUP)

Initiated in 1971, JUP is implemented by research grants from both the FAA and NASA to a consortium comprised of the Massachusetts Institute of Technology, Ohio University, and Princeton University. Each university submits a separate proposal and is dealt with individually by the FAA and NASA. By being identified as participants in a common program, however, a degree of cooperation and interchange of ideas has been achieved that would not have been possible otherwise.

The diversity of interests and capabilities offered by the three universities is an advantage in promoting the broad perspective needed to address air transportation problems. For additional information, contact Jim Remer in AAR's Research and Technology Applications office at (609) 485-5653.

Tech Center Happenings

Tech Center Turns 40

1998 marks the 40th year the Technical Center has served as the research and development center for the FAA.

July is the official anniversary of the Technical Center, and several activities will take place, including an exhibit of history from 1958 to the present and future, to be displayed in the atrium throughout the month.

The highlight of the anniversary celebration will be a ceremony on July 22, featuring Administrator Jane Garvey, and several honored guests and officials. Director Anne Harlan will dedicate the new "Technical Center Directors" wall of fame and the Center's time capsule.

Updates will be given as specific schedules are set.

Atlantic City Airport Transfer

Atlantic City International Airport, the nation's last remaining airport operated by the FAA, will soon change hands.

The FAA will transfer control of the airport to the South Jersey

Transportation Authority (SJTA), a state agency created to oversee transportation development in the area. SJTA approved an agreement, on March 17, and following FAA and state approvals, the transfer is expected to take place officially on April 15.

The authority will sign a 50-year lease with the FAA for about 2,000 acres of airport land, the runways and taxiways.

"This is a win-win situation for the Technical Center, FAA, SJTA, the airport and all of South Jersey," said Dr. Anne Harlan, Technical Center Director. "The Technical Center will be able to focus on its mission of aviation safety, and the transportation authority will be able to develop Atlantic City International Airport to its fullest potential."

Y2K Testing

The FAA is developing and testing a replacement system for the en route Host computer system and the oceanic systems - oceanic display and planning system (ODAPS) and offshore flight data processing system (OFDPS), at the Technical Center. The new system provides solution for both Y2K certification risks and supportability issues surrounding the critical components such as thermal conduction modules. These tests are being conducted by the National En Route Automation Division, AOS-300.

Efforts are also under way at the Technical Center to implement renovations for Year 2000 related issues, and to develop a contingency plan for Y2K compliance.

Los Angeles Enhancement Project Update

The Los Angeles Arrival

Enhancement Project was officially implemented in Los Angeles airspace on March 10.

The routing implementation went smoothly, and the airline users were kept advised as to the progress and efficiency of the implementation via telecons.

This measure relieves the delays of eastern arrivals into Los Angeles International Airport by creating more efficient use of airspace between Los Angeles Center and the Southern California TRACON.

The airspace simulation, performed at the Technical Center by the Air Traffic Control Simulation and Support Branch (ACT-510) in January, was an integral factor in the success of this enhancement.

Tech Center CO-OP Program

(Thanks to Ricardo Mercado, Communications Management Division, ACT-70, for submitting this story.)

The Cooperative Education (COOP) Program has flourished for more than 25 years at the Technical Center. The program provides the opportunity for local and foreign students to get hands-on experience in their major areas of study. The program is managed by Carleen Genna-Stoltzfus, and has 25 students from the United States and Puerto Rico participating at this time.

The work performed by the students plays a vital part in their divisions' efforts. Here is a brief description of what some of the students are doing at the Technical Center and their personal experiences as

part of the Co-op group.

Lisa Hartz, Human Resource Management Division (ACT-10)

"Currently, I work with Lana Haug, the employee relations specialist in our division. We make all the arrangements for employees' health benefits, life insurance, designation of beneficiaries, TSP, retirements, military deposits/redeposit and workers compensation, just to mention a few.

I feel very lucky to work with such a variety of people, from employees who are just beginning their careers at the Tech Center, to those who have been here for many years. It has been a wonderful experience for me and I have learned a lot."

Tyrone Brown, Resource Scheduling Network (ACT-420)

"I am currently working on the Resource Scheduling Network, part of the ACT-400 Lab Automation Project. Our project's goal is to automate the labs' scheduling and time requests, to eliminate the paper work. I designed the part of the Graphic User Interface (GUI), and wrote part of the code for the RSN.

My experience here has been great. I have gained lots of on-the-job experience that I could not have received in a classroom. I consider that my work is meaningful, not just busy work (copies, coffee, etc.), and that I will be able to use this experience in the real workforce."

Kelley Drewes, Human Resource Division (ACT-10)

"I work in the front reception

area. Here, I assist customers with regard to obtaining employment at the Technical Center. I also support the division secretary with correspondence and other clerical duties. For me, the Co-op experience has been extremely valuable. I think I am learning much more from my experiences here than in a class room. I really enjoy it!"

Juana Derrick, Hardware Engineering Branch (ACT-410)

"As a Co-op, I will contribute two laboratory handbooks (the Terminal System Support Facility and the En Route System Support Facility) to ACT-410. These handbooks will be used by all users of the laboratories and the NAS facilities. I am currently learning and updating the complete process of standard operating procedures on issues such as access, user requests, scheduling procedures, equipment delivery and installation procedures, laboratory protocols, and equipment description.

This co-op experience is great. I am meeting professional people in my field of study who are my mentors, learning all about laboratory management and the laboratory itself, and I am given the opportunity to apply the knowledge and skills that I learned in class to my work here at the William J. Hughes Technical Center."

Ricardo Mercado, Communications Management Division (ACT-70)

"My personal experience working for the Communications Management Division, ACT-70, has been incredible. I have been using all my

marketing skills to collaborate with the division's marketing efforts for the Technical Center.

As part of my duties as a Co-op Student for ACT-70, I am developing a brochure and several informational fact sheets. I am part of the Publicity Committee for the Technical Center's 40th Anniversary celebration, and am working on Publicity information for the Air Traffic Controllers Association Convention being held in Atlantic City, New Jersey this year.

This has given me the opportunity to learn about the different technical and administrative capacities of the Technical Center and how they can be used for its Marketing. I am also helping coordinate the activities of the Aviation Education and Co-op programs.

I really like my job and I hope every student who gets this opportunity in the future has the same great experience we've all had here at the William J. Hughes Technical Center."

For additional information on the co-op program, please contact Carleen Genna-Stoltzfus, at (609) 485-6630.

Excellence in Aviation Award Ceremony

On January 7, 1998, Dr. George Donohue, FAA's Associate Administrator for Research and Acquisitions, presented the agency's 1997 Excellence in Aviation Award to the

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FAA/NASA Joint University Program (JUP) at a special ceremony at the William J. Hughes Technical Center.

This ceremony marked the first formal presentation of FAA's Excellence in Aviation Award. This award is an annual distinction presented by the FAA to external research scientists and institutions able to demonstrate superior technological achievements in aviation as a result of dedicated research initiatives.



Jan Brecht-Clark opens the award ceremony.

Dr. Anne Harlan, Director of the Technical Center, and Dr. Jan Brecht-Clark, Acting Director, Office of Aviation Research hosted the ceremony.

During the ceremony, Donohue pointed out that "the JUP is unique among government grant recipients in that it provides an interdisciplinary team approach to research and education in aviation technologies.

By bringing this multi-agency, multi-university approach to bear on large-scale national airspace system management and technical problems, highly original and creative solutions emerge."

The JUP, which recently celebrated its 25th year of research in 1997, has

provided both the FAA and NASA a high return on investments. For example:

JUP participants at Ohio University have completed the world's first real-time, in-flight determination of aircraft attitude and heading using GPS interferometry and provided the software and flight control computer design that made possible the world's first GPS-based autoland of a commercial jet transport aircraft.

MIT's JUP participants have developed a prototype conflict alerting system for free flight, and developed aircraft noise models for FAA that assist in laying out new terminal areas.

JUP participants at Princeton have researched, developed, and tested an autonomous intelligent air traffic management system and have developed optimal escape strategies for aircraft encountering potentially catastrophic atmospheric conditions such as windshear.

The quality of the program also is reflected in the fact that JUP students have won RTCA's prestigious William E. Jackson Award 15 out of the 21 times it has been offered. JUP participants have also won national awards from the American Institute of Aeronautics and Astronautics (AIAA) and the Institute of Electrical and Electronic Engineers (IEEE) in aviation meteorology and automatic control theory.

The three universities are currently working with the FAA and NASA, conducting cutting-edge research on a variety of aviation topics, such as intelligent flight control systems, weather

hazard avoidance, satellite navigation, cockpit displays, and intelligent air traffic management.

For information on the Excellence in Aviation Awards program, please contact Patricia Watts (AAR-201) at 609-485-5043.

For information on the JUP, contact Jim Remer (AAR-201) at (609) 485-5653.

Me and My Shadow

Casey Buchanan, a fifth grader at Bradbury Heights Elementary School in Capitol Heights, MD, spent Ground Hog Day, shadowing Terry Kraus (AAR-4) under the Garrett A. Morgan Technology and Transportation Futures Program.

Named for a black entrepreneur who invented the three-phased automated traffic signal and the gas mask, the program was formed as an educational initiative to ensure that today's generation is prepared to become the transportation work force of the future.

Accepting the fact that every day we make choices which affect our future, career, and livelihood, exposing students to a variety of career paths could give them tools to make those choices.

Department of Transportation Secretary, Rodney Slater, initiated this program in May to ensure that students are aware of the multitude of transportation-related career opportunities.

Also, in response to President

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Clinton's Call to Action for American Education in the 21st Century, Secretary Slater has committed to reach 1 million students to ensure that they have an adult who will help them learn math and science and to help schools get Internet access.

It is clear that as we approach the next century, we must work to ensure that our students have the math, science, and technology skills needed to run the transportation systems of tomorrow.

Addressing the group of more than 100 students from Suitland-area schools, Slater commented, "We hope to give you the opportunity to see what you might become. Hopefully, you see yourself doing something that makes a difference in society."

He said he wanted students to "see themselves in a different light" and learn there are a wide array of jobs in



A tired, but happy Casey on her way home.

transportation, from truck driver and engineers to air traffic controllers and pilots. Casey got the message. "I found out almost any career can work here - like a doctor," Casey said, as she toured the FAA. Casey found the lesson about air traffic controllers

most interesting -- "the people who control the plane when it goes up and down," she said.

We are sure that Casey was not the only one who benefited from this experience. As rumor has it, Terry is still smiling. Both Casey and Terry encourage YOU to get involved with the youth of today and tomorrow's future.

For additional information on the Garrett A. Morgan Technology and Transportation Futures Program, contact Linda Zamer (AGI-6) at 267-3989, or see the website at: www.dot.gov/edu/.

The Cavalry Arrives

Trudy Gray (AAR-201) has accepted a detail in AAR-4 to join Terry Kraus in her battle to "get the word out." Terry's cries for help, or as Terry calls it "whining," has finally paid off.

Trudy will be assisting Terry in writing and producing the AAR newsletter, coordinating agency-wide annual reports, reporting AAR significant activities, and many other assorted duties.

Trudy is a Grants Analyst with the Aviation Research Grants Program, located at the William J. Hughes Technical Center. Among her special assignments, she has been responsible for writing, producing, printing, and distribution of monthly brochures which highlight aviation grant "success stories."

These brochures are distributed to a wide and diverse audience to market the benefits of the Aviation Research Grants Program. These stories can be accessed through the FAA William J. Hughes Technical Center's website: www.tc.faa.gov/aar201/success.html.

Another recent assignment of hers was to lead a team of three AAR-201 employees to coordinate, produce, print, and distribute the 1997 *Partnerships in Research and Development*, an annual report of the office and its programs (See story on page 7).

She has also authored several articles which have appeared in the Technical Center *Intercom*, the *NAFEC News* (produced at the Center), and the Headquarters *Intercom*.

If you happen to notice Trudy wandering around the halls at HQ looking lost, please return her to Terry for further instruction, and be sure to welcome her to DC.

Shadow Part II

(Thanks to Trudy Gray for representing AAR as a judge at the science fair, and then sharing her thoughts about it with us.)

Linda Zamer (AGI-6) recently received a letter, asking for volunteer judges for the annual Bradbury Heights Elementary School Science Fair. Bradbury Heights is one of the schools which the FAA supports under the Garrett A. Morgan Program. As the FAA's representative for this program, Linda called for volunteers. As is historically the case, the call went out and they came. Probably the

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promise of a school lunch was the clincher.

The FAA volunteer judges were: Ken Geisinger, ATX-200; Keith Gilmore, ACS-60; Manny Kuti, ANS-103; Frederick L. Williams, AHR-19; Ron Jennings, AOP-300; Kenneth Johnson, ARN-300; Bob Cripe, AGI-5; Odis Kenton and Stewart Jackson, AST-200; Sam Moore, ATX-200; Trudy Gray, AAR-201 (detailed to AAR-4); Michelle Moorehead, AHR-28; Ann Hooker, AEE-300; and of course Linda Zamer.

On March 12, when the van carrying the volunteers arrived, 350 science projects and some very excited students from grade 1 through 6 filled the school gymnasium. Thirty volunteer judges went to work after receiving instructions from the Principal, Sheila Murray. "Listen, ask questions, suggest, provoke thought, encourage, compliment, then score the project."

"Sounds easy enough, shouldn't take long" this judge thought to herself. After the third contestant, I realized I was mesmerized by the enthusiasm of each. I wanted to talk to them about their projects for as long as they wanted, and they had a lot to tell me.

After a little self-discipline lesson, I found out which laundry detergent, out of 8 tested, is best at getting the dirt out; what dish detergent, out of 5 tested, is best at removing grease; what hand soap, out of 5 tested, makes the most bubbles (according to the contestant, bubbles are the main reason for washing your hands); and most importantly, what candy tastes the best.

However, the latter project should be tested again on a

more mature group, not only those in the sixth grade. It seems the sixth grade group chose a candy that the "scientist" did not agree with.

I now also know where my bananas should be kept if I want them to stay yellow longer as well as an array of other useful tips for everyday living. Did you ever wonder what microwaving a seed might do to its growth process? Here's a hint, microwave and your garden won't grow.

Bradbury Elementary School tallied the votes and announced the winners the following day. However, it is my feeling that in spite of the official announcement of "winners," each one of the students I spoke with is a winner. Winners, because they possess such enthusiasm and desire to learn, they can be nothing less.

And, oh yes, there were more "winners," the judges. The excitement which was present in the gymnasium upon our arrival, had transferred from the students to us.

Each judge had wonderful stories to tell of their day with the students. "How bright....how about the green bacon....how witty....how confident....did you see the sour milk one?....how clever....did you play the battery game?" But most of all, "how lucky we are to have had this experience."

Don't pass up an opportunity to volunteer, as you give, you gain.

Upcoming Conferences

"Air Traffic Management Research and Development"

The FAA and Eurocontrol are sponsoring the second international air traffic management research and development seminar during the first week of December 1998.

In conjunction with that meeting, conference organizers are soliciting papers that present research results in any of the following areas:

--activities associated with the improvement of air traffic management performance in the near- or mid-term (2005);

--future operational concepts; or

--air traffic management performance measurement, modeling, and assessment.

Abstracts (1,000 words) are due April 1 and should include a discussion of the types of results the author intends to present. Electronic submission of abstracts in Word 6.0 format is preferred. Authors will be notified of acceptance by May 15; final papers are due October 15. Paper submission will be mandatory for attendance. All interested parties should contact:

Dr. Andres Zellweger
Dean of Graduate Programs
and Research, Embry-Riddle
Aeronautical University,
Daytona Beach, Florida 32114
email:
zellwega@cts.db.erau.edu

"Rethinking Approach Lighting Systems for the 21st Century"
The FAA and Arizona State University are sponsoring this symposium to be held April 15-18, in Mesa, Arizona.

With the advent of next-generation navigational tools, approach lighting systems must evolve and take on new roles in providing safe and efficient traffic flow into the world's airports. This conference is designed to address current and

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emerging design concepts, lighting technologies and policies to support this objective.

Planned sessions will cover topics such as: emerging technologies; human factors; maintainability, governmental research, and modeling and simulation.

For additional information, contact:

Dr. Jane Humble
tel.: (602) 727-1304
email:
ALS.Symposium@asu.edu

The Twenty-fifth Annual Review of Progress in Quantitative Nondestructive Evaluation Sponsored by Iowa State University, this conference is scheduled for July 19-24, 1998, in Snowbird, UT.

Sessions will be held that emphasize both the basic science and early engineering developments in quantitative NDE and closely related technologies such as materials characterization and process control that utilize quantitative NDE techniques.

For further information, please contact:

Connie Nessa
tel.: (515) 294-9749
fax: (515) 294-2367, or
visit the Center's web site:
<http://www.cnde.iastate.edu/qnde/qnde.html/>.

The Second Joint Conference on Aging Aircraft

This conference, sponsored jointly by NASA, the FAA, and the DoD is scheduled for August 31 - September 3, 1998, in Williamsburg, VA.

The conference will provide an opportunity for interactions among the key personnel in the research and technology

development community, the original equipment manufacturers, commercial airline operators, military fleet operators, aviation maintenance, and aircraft certification and regulatory authorities. Conference participation is unrestricted and will be open to the broad international aviation community.

For further information, please contact:

Ms. Sonya L. Herrin
Science and Technology
Corporation
tel.: (757) 865-7604
fax: (757) 865-8721
e-mail: herrin@stcnet.com

Achieving Interoperability with a NAS Common Data Architecture

The FAA's NAS Information Architecture Committee is planning a two-day NAS data conference on April 21-22 in the Mitretek facility in McLean, Virginia.

This conference is the first in a series of participatory forums to address NAS data architecture issues.

The symposium is intended to pave the way toward NAS-wide interoperability and electronic data exchange as envisioned in the NAS Concept of Operations in 2005 and the NAS Architecture. It is specifically designed for the FAA organizations (and their support contractors) who are currently involved in NAS operational systems.

To register or for further information, please contact:

NAS Information Architecture Committee,
tel: (202) 484-2492, ext. 627
email: 9-NAS-Infoarch@faa.dot.gov
ccmail: 9-NAS-Infoarch

A Note From the Editor

I would like to thank everyone who helped make this issue possible. This was truly an AAR team effort, with input coming from almost all of the AAR divisions. In particular, I want to extend my thanks to Trudy Gray. Without her help this issue would never have been as comprehensive. I welcome her help over the next several months.

Also, AAR is in the midst of revising and updating our homepage in an effort to make information about the organization and its research efforts more accessible. When you get the chance check out what we are doing at www.faa.gov/aar/aarhome.htm.

If you have any questions or are interested in submitting story ideas for the June issue, please contact Terry Kraus at (202) 267-3854 or via email at terry.kraus@faa.dot.gov.